

WEST BOYLSTON WACHUSETT NO. 47 SUBSTATION
TESTIMONY OF F. PAUL RICHARDS

Q. Would you please state your full name, business address, and position with respect to the petitioning company?

A. My name is Frederick Paul Richards. My business address is 55 Bearfoot Road, Northborough, MA. I am a Principal Environmental Engineer in the Environmental Group of the National Grid USA Service Company, Inc. which performs environmental and other services for the companies in the National Grid System, of which the petitioner, New England Power Company (NEP or Company), is one. Our Group is responsible for the environmental studies and analyses which support the engineering design of the subject project.

Q. What are your professional qualifications?

A. I have a Masters Degree in Marine Biology and have been an environmental consultant/environmental engineer for over 30 years. I have published or presented numerous papers at scientific meetings and environmental conferences. Currently I am a member of the Society of Wetland Scientists and the Association of Massachusetts Wetland Scientists. I serve as a member of the Princeton Conservation Commission.

Q. Have you previously testified and given a statement of your qualifications in proceedings before the Department?

A. Yes, I have done so in the following proceedings: Risingdale, 23 kV lines, DPU 95-57; the Quincy Cable Project, DPU 97-98/97-99 and EFSB

1 97-3; Golden Rock 115 kV line extension, DTE 99-70 and the Westford
2 #57 Substation, DTE 01-77.

3
4 Q. What is your responsibility for this project?

5
6 A. I am responsible for the environmental assessment of the project siting and
7 construction as it relates to natural resources, particularly wetland
8 resources, and to the environmental permitting of the project.

9
10 Q. Were the environmental analyses and permit applications done by you or
11 by others under your supervision?

12
13 A. Yes, they were.

14
15 Q. What exhibits do you offer to support your testimony regarding
16 environmental impact assessment?

17
18 A. I offer the Massachusetts Wetlands Protection Act Notice of Intent
19 submitted to the West Boylston Conservation Commission See Exhibit
20 FPR-1.

21
22 Q. Are you familiar with the Department's Checklist for Filing of Zoning
23 Exemptions?

24
25 A. Yes, I am.

26
27 Q. Would you please provide analysis of the environmental impacts of the
28 proposed facilities on land use, wetlands, visibility, traffic and site access,
29 public safety, air pollutant emissions and the use of hazardous substances?

1 I understand that water resource and noise matters are covered by
2 witnesses McIntyre and Molina, respectively.

- 3
4 A. Yes. I will respond in the order of the criteria presented by the
5 Department. The existing conditions will be described initially followed
6 by an assessment of potential impact.

7
8 Land Use---The site is dominated by an existing electrical substation and
9 by a transmission right-of-way. The easterly portion of the Company's
10 property, the direction in which the expansion is proposed to occur, is a
11 combination of right-of-way and woodland.

12
13 The change in land would involve the conversion of about 2 acres of
14 woodland to an electrical substation. Land use would become utility-
15 oriented. The amount of conversion is judged to be small in comparison
16 to the reservoir buffer of woodland remaining to the east of the
17 Company's property. There will remain over 1500 ft. of woodland buffer
18 to the reservoir to the east.

19
20 Wetlands----Exhibit FPR-1 provides my analysis of the wetland resources
21 in the area and the anticipated impact, which is shown to be minimal. The
22 Notice of Intent was filed with the West Boylston Conservation
23 Commission at the end of December 2003.

24
25 The area in which bordering vegetated wetland is to be altered by the
26 project is about 1,370 sq. ft. The alteration involves cutting of trees to
27 allow for a safety clearance for the conductors. The actual wetland itself
28 will remain but a portion will be converted to a shrub/scrub wetland.
29 About 1,735 sq. ft. of isolated Federal wetland will be lost to
30 accommodate the substation. About an acre of buffer zone work is also

1 proposed. Lastly there will be about 5,000 sq. ft. of work in the Riverfront
2 Area associated with Gates Brook. It should be noted that the portion of
3 the substation to be expanded in Riverfront Area is separated from Gates
4 Brook by an elevated bed for the abutting railroad line. The bed is
5 approximately 11 feet higher than the substation effectively isolating this
6 portion of the Riverfront Area from the brook.

7
8 The Company has met in pre-application meetings with the West Boylston
9 Conservation Commission, the Department of Environmental Protection
10 and the Department of Conservation and Recreation. All were shown
11 plans with the resource areas onsite mapped clearly, as well as the
12 proposed footprint of the substation and relocated transmission lines. The
13 meetings were all very positive.

14
15 Water Resources---The site abuts lands owned by the Commonwealth of
16 Massachusetts surrounding Wachusett Reservoir. Gates Brook flows just
17 north of the site and an unnamed intermittent stream crosses the right-of-
18 way and access road to the south. The testimony of witness Daniel
19 McIntyre addresses water resource issues and NEP's measures to protect
20 those resources.

21
22 Visibility----The site is located off Route 140 (Temple Street) in the Town
23 of West Boylston. The existing substation is set back off the road about
24 1000 feet. The expansion will generally be due east such that the distance
25 will remain in the 900 to 1000 feet range from the road. There is an active
26 railroad line on an elevated bed which blocks site views from the houses
27 to the west. The expansion area will be at roughly the same elevation as
28 the existing substation.

29

1 Since the substation is already set far back off the nearest roadway and is
2 screened by a railroad to the west and by state-owned watershed lands to
3 the north and east, the expansion is not likely to be visible to the public.
4

5 Noise---The substation and transmission lines are relatively quiet
6 especially since they are about 400 feet from the nearest residence and
7 separated from same by a raised railroad bed. The expansion will
8 generally be away from the direction of the nearest residence. Noise
9 measurements and impact assessments are presented in Mr. Molina's
10 testimony.
11

12 Traffic and Access---There is good transportation access to the site both
13 from I-290 and I-190 as well as the nearest road, Route 140. Sight lines to
14 the substation access road are good in both directions. The local
15 conditions which slow traffic are school buses in the morning and
16 afternoon and the occasional freight train using the at-grade crossing at
17 Route 140. The good road network in the area, coupled with the long
18 access road to the site, results in very low and temporary impact to traffic
19 or site access, if any at all.
20

21 Public Safety---The substation is surrounded by a chain link fence.
22 Additionally, the access road has a gated entrance. The same security will
23 be in place for the extended substation site.
24

25 Air Pollutant Emissions---The existing substation is not a source of air
26 pollutant emissions. The expanded substation will not be a source of air
27 pollutant emissions.
28

29 Hazardous Substances---- There are two substances to be used at the
30 substation which can be classified as hazardous in nature. One is sulfur

1 hexafluoride (SF 6). SF 6 is defined as hazardous by the U. S. Dept. of
2 Transportation(DOT). It is a gas used as an insulator in the switchgear in
3 the substation. Its hazard risk stems from being an asphyxiate by
4 displacing oxygen in the lungs when breathed. It is a colorless, odorless,
5 nontoxic, and nonflammable gas and is shipped as a liquefied gas. NEP's
6 current equipment at the substation uses a small amount of SF 6.

7
8 Although SF 6 is defined as hazardous by DOT, there is no risk of general
9 public exposure because the switches are located inside a chain-linked
10 fenced yard. They are installed and maintained by trained technical staff.
11 They are checked for integrity during inspections by company personnel.
12 The switches are made up of a myriad of isolated sections such that a leak
13 would not drain all the gas but rather a small amount. Also, each section
14 is gauged to an alarm in the event of a leak.

15
16 The second component is battery acid associated with the control house
17 batteries. The lead acid is toxic and corrosive.

18
19 In terms of impact to human health or the environment, the battery acid is
20 well-contained. Besides being in solid battery packs, it is housed inside
21 the control building. Those are the first and second levels of containment.
22 The third level is a shallow berm surrounding the battery pack area.
23 Unlikely leaks from batteries will be retained behind the berm until clean-
24 up can begin. Hydrogen gas vapors from a leaky battery will be detected
25 by sensors. If gases reach 2%, alarms are sounded in the Westborough
26 control center for remediation by the district. At the same time, fans are
27 automatically activated to purge gas from the control house.

28
29 Q. What environmental permits are needed for this project?
30

1 A. The environmental permits needed include an Order of Conditions from
2 the West Boylston Conservation Commission relative to the
3 Massachusetts Wetlands Protection Act, a determination from the
4 Department of Conservation and Recreation relative to the Massachusetts
5 Watershed Protection Act, a storm water management permit from US
6 Environmental Protection Agency, and a storm water permit from
7 Massachusetts Department of Environmental Protection (DEP) for
8 discharge to an Outstanding Resource Water.

9
10 Based on conversations with the US Army Corps of Engineers and the
11 Department of Environmental Protection, there is no need to file under
12 Sections 401 (Water Quality Certification) or 404 (Dredge and Fill) of the
13 Clean Water Act.

14
15 Q. Have you confirmed that no Massachusetts Environmental Policy Act
16 (MEPA), Environmental Notification Form (ENF) or Environmental
17 Impact Report (EIR) is required for this project?

18
19 A. Yes. The following is an appraisal of the MEPA thresholds relative to this
20 project.

21
22 1) Land----No changes affecting the seven land-oriented triggers: (1) No direct
23 alteration of 25 + acres of land; (2) no creation of five or more acres of
24 impervious surface; (3) no Article 97 lands; (4) no agricultural land
25 conversion; (5) no release of an interest in land held for conservation; (6) no
26 new urban redevelopment project, pursuant to M.G.L. c. 121A; and (7) no
27 approval of a new urban redevelopment plan, pursuant to M.G.L. c. 121B.

28
29 2) Rare Species----The 11th Edition of the Natural Heritage Atlas does not
30 indicate any rare species habitat affected by the project

- 3) Wetlands, Waterways and Tidelands—The project will have less than 5,000 sq. ft. of wetland impact.
- 4) Water---The project will have a flush toilet for very occasional use by periodic O&M visits, but it will not exceed threshold criteria for MEPA review.
- 5) Wastewater---There is one toilet associated with the project, but it will not exceed MEPA threshold criteria.
- 6) Transportation---There are no triggering transportation issues involved in the proposed project.
- 7) Energy---There are no new generation or transmission aspects to the proposed work that trigger MEPA review.
- 8) Air---There are no air emissions associated with the proposed project.
- 9) Solid and hazardous wastes---There are no solid or hazardous wastes associated with the project.
- 10) Historical and Archaeological Resources---Most of the site is previously disturbed and is being used as a 115 kV substation and electric utility right-of-way. There are no known historic sites in the vicinity, based on a review of the 2001 State Register of Historic Places. Regarding archaeological resources, a Project Notification Form (PNF) was sent to the Massachusetts Historical Commission, which has since indicated that it anticipates no further interest in or action on this project. See Exhibit FPR-2.

1 11) Areas of Critical Environmental Concern---The site is not in an ACEC.

2

3 12) Regulations---Not applicable, as no regulations are proposed.

4

5 Q. Does this conclude your testimony?

6

7 A. Yes, it does

8

LIST OF EXHIBITS

Exhibit FPR-1: Notice of Intent – Wachusett Substation No. 47 Expansion
West Boylston, Massachusetts

Exhibit FPR-2: Correspondence with Massachusetts Historical Commission